UNITED STATES PATENT OFFICE.

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PROCESS OF RENOVATING BUTTER.

1,210,918. Specification of Letters Patent. Patented Jan. 2, 1917.

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To all whom it may concern:

Be it known that I, HARRY B. EIGELBERNER, a citizen of the United States, residing at Oak Park, in the county of Cook and State of Illinois, have invented new and useful Improvements in Processes of Renovating Butter, of which the following is a specification.

The purpose of this invention is to provide an improved means of renovating butter,—that is, depriving it of all foreign or unclean odors or those resulting from rancidity or putridity.

It consists in the succession of steps hereinafter described, as indicated in the claims.

It is well known that butter not only acquires unpleasant flavors and odors by reasons of changes in the small remnants of other substances beside butter oil which are derived from milk, but also by reason of the capacity of butter oil for absorbing odors and flavors from entirely foreign substances and from the atmosphere. It is also well known that the unpleasant odor or flavor due to rancidity or putridity, which results from decay, not of the butter oil itself, but only of the said small remnants of other substances derived from the milk, tends to remain in the butter after all traces of these other decayed substances are removed and after all rancid or putrid condition has been corrected. That is to say, butter oil or butter which is in itself entirely pure and clean so far as the presence in it of any actual unclean substance or impurity is concerned, may become and remain exceedingly foul as to odor and taste. By the present invention I remove the odor and flavor which is unnatural, impure or unpleasant, without in any respect affecting the chemical or physical condition of the butter or butter oil, and without removing any tangible or measurable or ponderable substance therefrom.

My process consists fundamentally and generically in exposing the butter or other oleaginous substance having the foul odor or flavor to a bath containing a deodorant,—that is, a substance having the capacity of absorbing odors and flavors, such bath being also a solution containing a suitable preventive of the chemical action of the deodorant, so that the oil to be deodorized and de-flavored may remain in the presence of the odor-and-flavor-absorbent for any length of time necessary to complete absorption of the odor or flavor without producing any chemical action or causing any physical or organic change in the oil itself.

I use the term "absorb" and "absorbent" and the term "deodorant" in accordance with common phraseology without intending to state what actually happens for causing the odors and flavors to disappear from the oil, and without intending to be understood as stating that any such action as absorption actually occurs. So far as I am aware, it is not known that any measurable or ponderable substance is removed from the butter or added to the so-called absorbent or deoderant in the process; but the odor or flavor disappears from the butter and is found afterward pertaining to the so-called absorbent or deodorant, and the property of acting in this manner, and this only, is what I intend to express by the word "absorbent" and "deodorant".

My process specifically consists of and comprises the following steps: First, I wash the butter in hot water. The purpose of this step is merely to remove mechanical impurities and may be dispensed with or comprised in the next step which consists in treating the butter with hot water containing a small proportion of lime in some form, preferably marble dust, to neutralize the decomposition acids, such as the butyric acid and any other volatile acids contained in the butter as the result of decomposition. After separating the butter oil from the acid-neutralizing bath, it is next thoroughly intermixed by agitation with a hot saturated common salt solution in which there has been dissolved zinc chlorid to the extent of from one-tenth to one-fifth of one per cent. of the total solution. The butter oil is allowed to remain in this solution for ten hours or longer. The zinc chlorid has the deodorizing effect described, and the common salt prevents the chemical action of the zinc chlorid which would otherwise occur if used alone, and which is, of course, undesirable, since no chemical change in the butter oil is wanted. After such exposure to said salt and zinc-chlorid solution, it is separated from the same and washed with hot water to remove all trace of the zinc chlorid and salt. The butter oil is next dried, preferably by steam heat, all the moisture being driven off and the butter oil being rendered